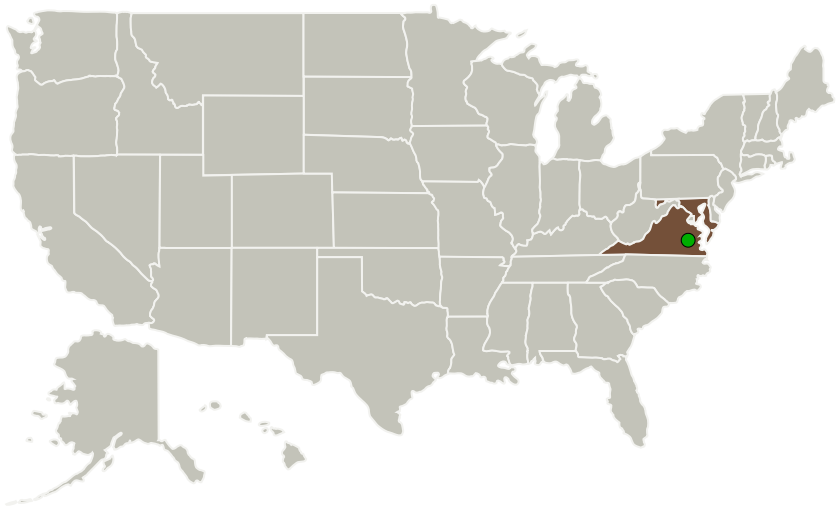
Air Traffic Management Cost Assessment Tool, Phase II

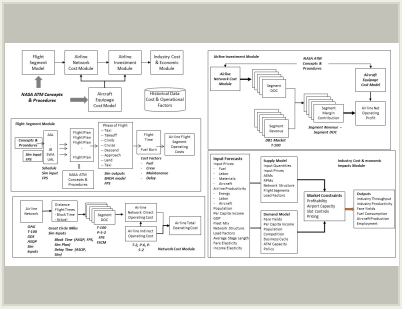
Completed Technology Project (2015 - 2017)

Project Introduction

The Robust Analytics Air Traffic Management Cost Assessment Tool (ACAT) provides the comprehensive capability to analyze the impacts of NASA air traffic management (ATM) research from individual flight trajectories through airline network operations and airline investments in equipment and training. Our air traffic management cost and economic model offers researchers and project managers a greater understanding of the cost drivers for aircraft operators and helps to validate the cost and revenue impacts of AOSP research. Increased validity of predicted results will help AOSP continue to receive operator support and hasten the transition of ARMD technologies into the NAS. Our model generates cost-benefit estimates for concept and procedure alternatives for individual airlines. The model also estimates a variety of impacts on industry, including input utilization and productivity, throughput, air transportation industry costs and fares, and broader economic effects such as employment and benefits to other industries. The ACAT goes beyond simple flight cost factors by providing greater fidelity in the cost analysis of flight segments, explicit estimation of training and certification cost, and realistic treatment of deployment time and risk. Our cost analysis is performed using airline-specific data, enabling more realistic assessment of airline investment decisions and identification of disparate effects and willingness to invest among airlines. ACAT can improve airline cost-benefit analyses to estimate the profitability of new and existing service on an ongoing basis, as well as investment in advanced ATM capabilities. The model will operate as a stand-alone tool and can integrate with airline flight planning and tracking systems. The model uses publicly available data that can be updated quarterly.

Primary U.S. Work Locations and Key Partners





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Small Business Innovation Research/Small Business Tech Transfer

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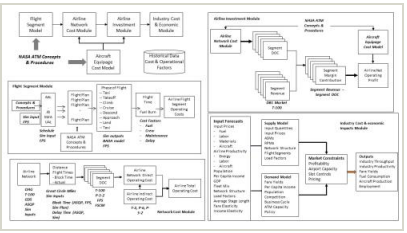
Organizations Performing Work	Role	Type	Location
Robust Analytics	Lead Organization	Industry Women-Owned Small Business (WOSB)	Crofton, Maryland
Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

Primary U.S. Work Locations	
Maryland	Virginia

Images



Briefing Chart Image
Air Traffic Management Cost Assessment Tool, Phase II
(https://techport.nasa.gov/image/133139)

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
Robust Analytics

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

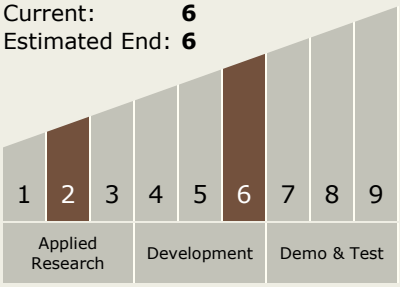
Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
Peter F Kostiuk

Technology Maturity (TRL)

Start: **2**
Current: **6**
Estimated End: **6**



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Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.1 Software Development, Engineering, and Integrity
    - TX11.1.3 Test and Evaluation

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System